SANTA CLARA VALLEY WATER DISTRICT

FINAL FOURTH ADDENDUM TO THE INITIAL STUDY/NEGATIVE DECLARATION FOR THE LOWER SILVER CREEK WATERSHED PROJECT, REACHES 4, 5, AND 6

May 13, 2010

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EVALUATION OF DESIGN CHANGES IN REACHES 4, 5, AND 6
PROJECT NO. 40264008

Prepared by

David W. Dunlap
Senior Environmental Planner

Under the direction of

Jennifer Castillo
Environmental Services Unit Manager

Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

MAY 13, 2010

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ACKNOWLEDGMENTS

Special thanks is owed to all of those individuals whose expertise contributed to the evaluation of the Lower Silver Creek Watershed Project, Reaches 4, 5, and 6, and to this Addendum, the result of that evaluation.

Background

Existing Environmental Documentation

The evolution of the project's history, and the design considerations of each of the reaches, has resulted in various environmental analyses and preparation of a series of documents. The relationship of one document to another is presented in Figure 1.

The Santa Clara Valley Water District (District), acting jointly with the Natural Resources Conservation Service (NRCS), prepared the *LOWER SILVER CREEK WATERSHED FINAL WATERHED PLAN and FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT* (FEIS/FEIR) in July 1983. That report analyzed the original Lower Silver Creek Watershed Project.[1] The resulting *1983 Recommended Plan* was approved, but not constructed.

Subsequently, the District, NRCS, and the Guadalupe-Coyote Resource Conservation District (GCRCD), as well as representatives from various regulatory agencies, reviewed and modified the project design to reduce potential environmental impacts of the original *1983 Recommended Plan*. The modified plan was called the *Lower Silver Creek Watershed 1998 Project Plan Update*. The resulting proposed project was evaluated in a subsequent *LOWER SILVER CREEK WATERSHED PROJECT. 1993 RECOMMENDED PLAN, AS MODIFIED BY THE 1998 PLAN UPDATE, FINAL INITIAL STUDY/NEGATIVE DECLARATION (IS/ND), ENVIRONMENTAL ASSESSMENT*[2]; and, the adopted project was designated as the *1983 Recommended Plan, as Modified by the 1998 Plan Update*. The District, acting jointly with the NRCS, prepared the joint IS/ND and EA/FONSI to evaluate changes between the *1983 Recommended Plan* and the *1998 Plan Update*. The District adopted the IS/ND in December 2000, and the NRCS approved the EA/FONSI in March 2001. See Figure 1 for the project's evolution via a document map.

Subsequent to approval of the IS/ND and EA/FONSI, minor modifications were made to some features of the *1998 Plan Update*. Consequently, three Addenda to the IS/ND were prepared in September 2001[3], January 2004[4], and July 2009[5]:

- The 2001 Addendum addressed the following project changes: 1) cross section changes; 2) environmental enhancement features; 3) right-of-way (ROW) acquisition; and, 4) existing and future operation and maintenance activities;
- The 2004 Addendum addressed *2003 Plan Modifications*, specifically, "In response to requests from the community and the City of San José, it was proposed to place a pedestrian bridge across Lower Silver Creek at a location that would have multiple community benefits; and,

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[1] Resolution No. 83-37, Accepting and Approving Final Environmental Impact Statement, Lower Silver Creek Watershed, July 12, 1983. (See enclosed)

[2] There was no Resolution by the Board; however, the Board did adopt the *Lower Silver Creek Watershed Project – 1983 Recommended Plan, as Modified by the 1998 Plan Update* Final Initial Study/Negative Declaration, by approving the recommendation of staff in the Agenda Memorandum, (see enclosed).

[3] LOWER SILVER CREEK WATERSHED PROJECT 1998 UPDATE, ADDENDUM to the INITIAL STUDY/NEGATIVE DECLARATION (SCH#2000102034) and ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT. September 2001.

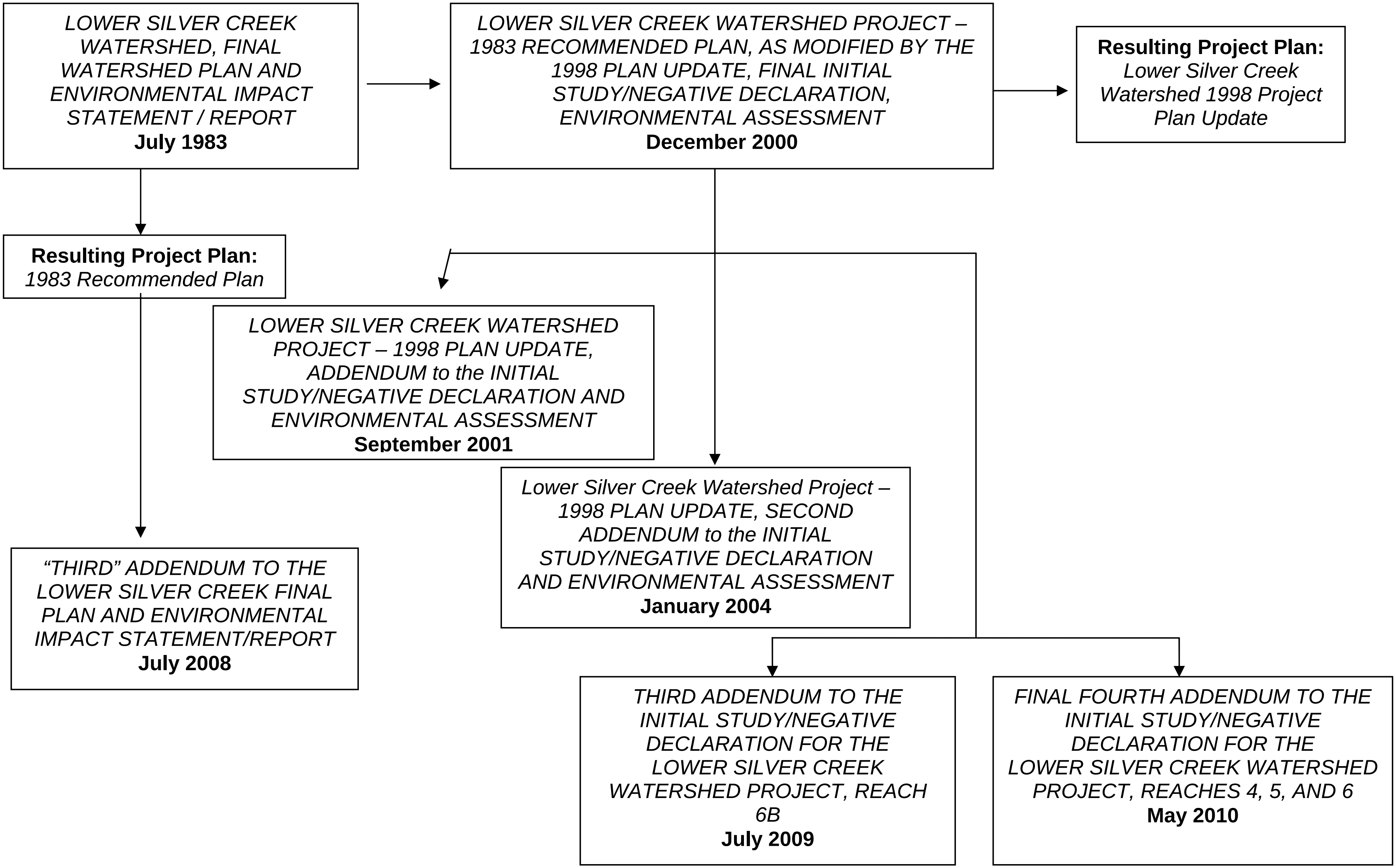
[4] LOWER SILVER CREEK WATERSHED PROJECT 1998 UPDATE, ADDENDUM to the INITIAL STUDY/NEGATIVE DECLARATION (SCH#2000102034) and ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT. January 2004.

[5] THIRD ADDENDUM TO THE INITIAL STUDY/NEGATIVE DECLARATION FOR THE LOWER SILVER CREEK WATERSHED PROJECT, REACH 6B. July 2009.

- The 2009, Third Addendum addressed design changes specific to Reach 6B of the LSC project.

The proposed construction of the re-designed LSC Reaches 4, 5, and 6 project elements is the subject of the project description, below; and, it is for these construction elements that a CEQA determination is at issue.

FIGURE 1 - PROJECT DOCUMENT MAP


LOWER SILVER CREEK WATERSHED, FINAL WATERSHED PLAN AND ENVIRONMENTAL IMPACT STATEMENT / REPORT **July 1983**
LOWER SILVER CREEK WATERSHED PROJECT – 1983 RECOMMENDED PLAN, AS MODIFIED BY THE 1998 PLAN UPDATE, FINAL INITIAL STUDY/NEGATIVE DECLARATION, ENVIRONMENTAL ASSESSMENT **December 2000**
Resulting Project Plan: Lower Silver Creek Watershed 1998 Project Plan Update
Resulting Project Plan: 1983 Recommended Plan
LOWER SILVER CREEK WATERSHED PROJECT – 1998 PLAN UPDATE, ADDENDUM to the INITIAL STUDY/NEGATIVE DECLARATION AND ENVIRONMENTAL ASSESSMENT **September 2001**
Lower Silver Creek Watershed Project – 1998 PLAN UPDATE, SECOND ADDENDUM to the INITIAL STUDY/NEGATIVE DECLARATION AND ENVIRONMENTAL ASSESSMENT **January 2004**
“THIRD” ADDENDUM TO THE LOWER SILVER CREEK FINAL PLAN AND ENVIRONMENTAL IMPACT STATEMENT/REPORT **July 2008**
THIRD ADDENDUM TO THE INITIAL STUDY/NEGATIVE DECLARATION FOR THE LOWER SILVER CREEK WATERSHED PROJECT, REACH 6B **July 2009**
FINAL FOURTH ADDENDUM TO THE INITIAL STUDY/NEGATIVE DECLARATION FOR THE LOWER SILVER CREEK WATERSHED PROJECT, REACHES 4, 5, AND 6 **May 2010**

CEQA Considerations

Once the CEQA review for a project has been conducted and the lead agency has adopted its findings with respect to impacts and proposed mitigations, these decisions need no additional review per CEQA. The lead agency's role has been fulfilled unless there are changes to the project and further actions are necessary that involve the exercise of the lead agency's discretion regarding the project.

When there are changes to a project, and the lead agency is taking a discretionary action, CEQA provides various levels of documentation to indicate that the lead agency has adequately considered the changes to the project. The appropriate level of review is based on whether changes to the project, to project circumstances, or resulting from new information not known at the time of approval of the original project, create new significant effects or a substantial increase in the severity of previously identified effects.

If one or more of the above criteria is met, then a subsequent document is required in accordance with CEQA Guidelines §15162. If none of the above conditions result in the creation or increase of a significant impact, then an Addendum should be prepared per CEQA Guidelines §15164(b).

DESCRIPTION OF PROPOSED ACTION

Area Location and Project Site

The LSC Reaches 4, 5, and 6 project elements would be located in San Jose, County of Santa Clara, California. Project construction activities would occur roughly from the point at which LSC passes, at its downstream end, under Interstate Highway 680 and, at its upstream end, below Cunningham Avenue (i.e., it includes Reach 6b,to which additional design changes have been included since completion of the Third Addendum in July 2009). The neighborhood in which the project is set can be characterized as developed, with single-family housing, and schools that are adjacent to the creek. See Figure 2 for project location and limits. Construction would be completed entirely within District-owned ROW or easements.

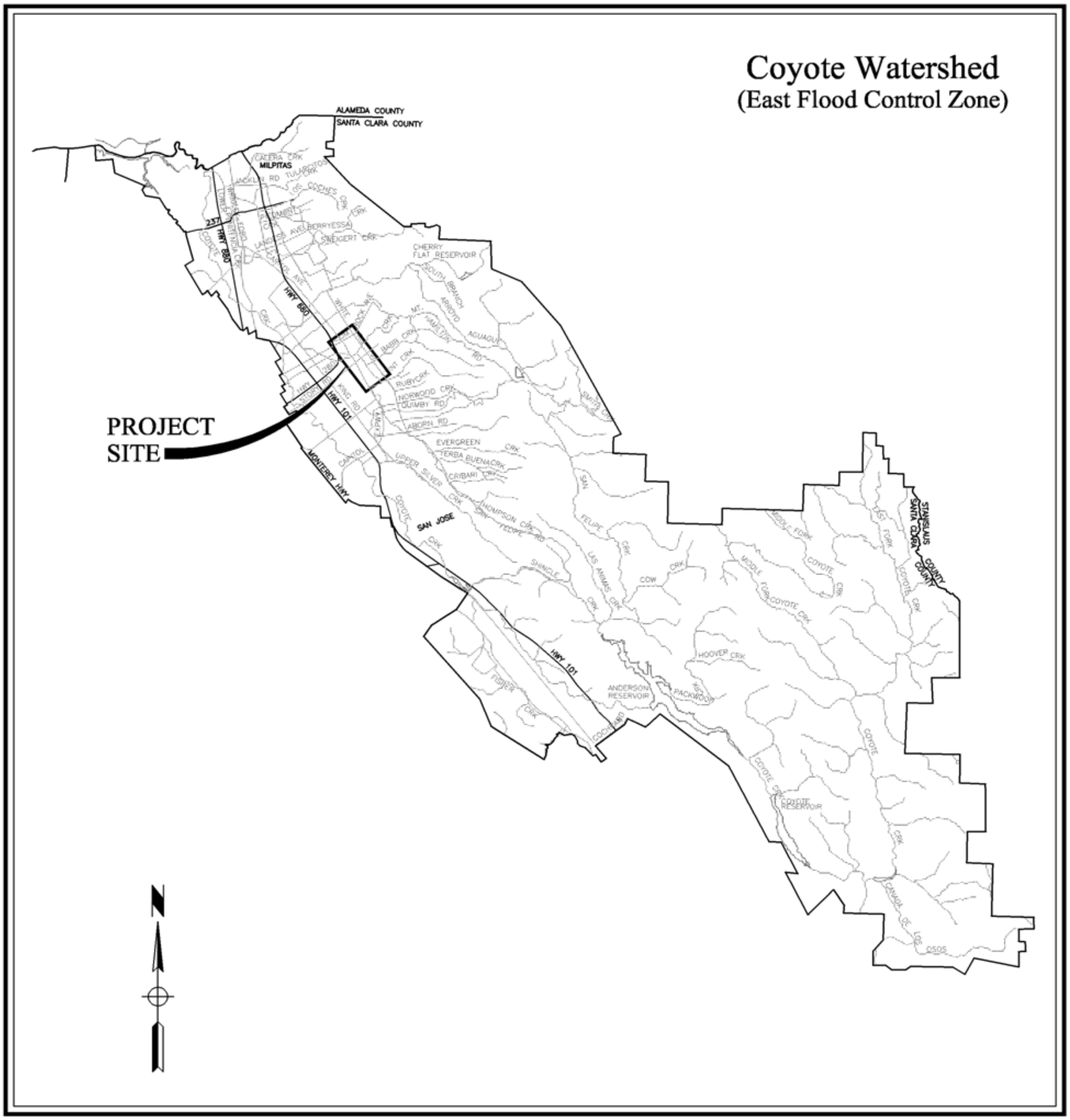
Objectives of the Project

The Lower Silver Creek Reaches 4, 5 and 6 project objectives are the same as those of the larger 4.6-mile Lower Silver Creek Watershed Project. Specifically, reduce the damage from all floods, including the one-percent flood event, and thereby:

- Reduce the potential for loss of life, property damage, and the concomitant need for extension of food-, shelter-, and other emergency services;
- Reduce the potential for disruption of transportation;
- Increase the habitat value of the channel, wetlands, and stream-bank environments; and,
- Improve the creek's aesthetic appeal.

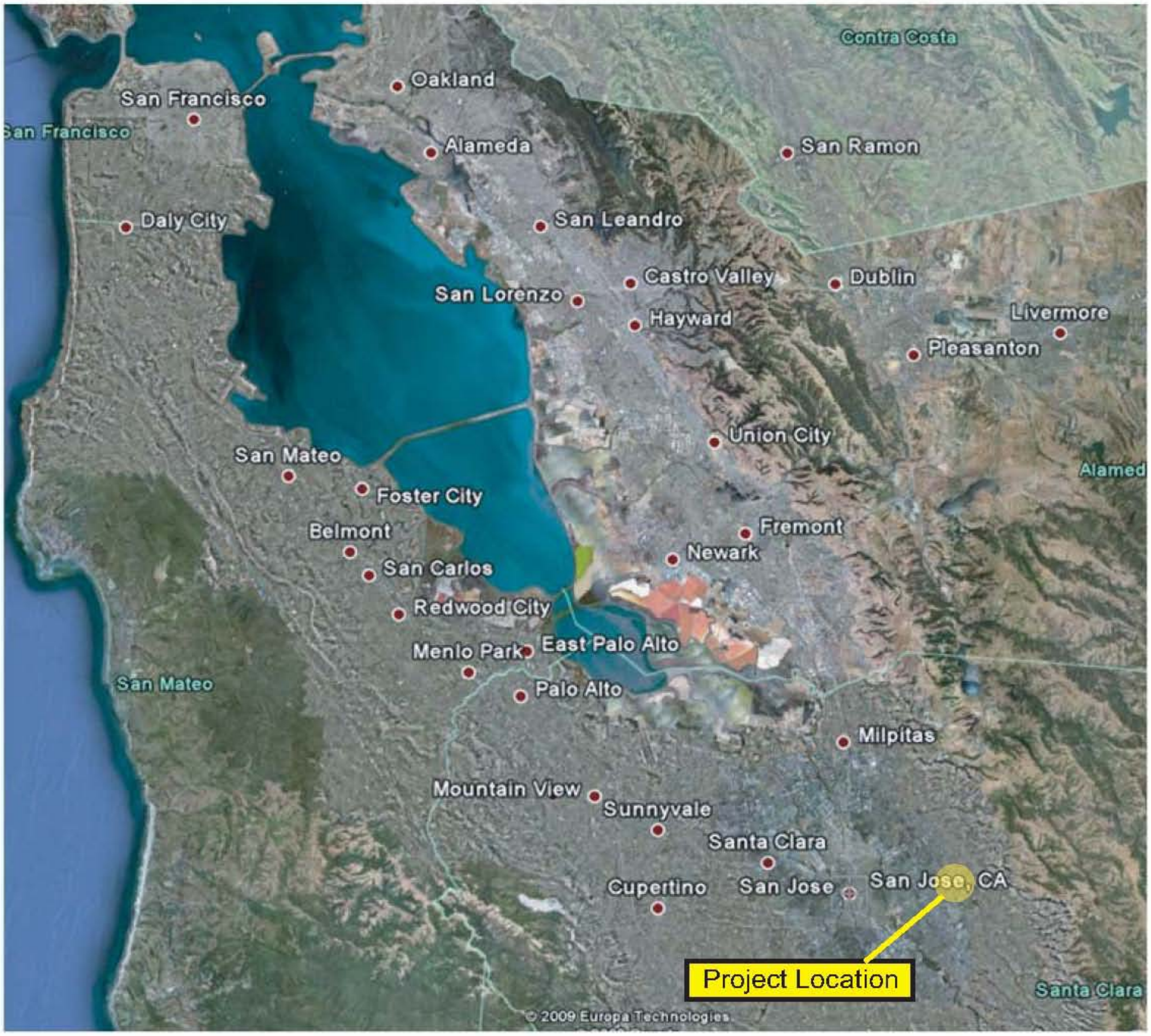
The proposed modifications are being designed to meet the overall goal of conveying the one-percent design flow in the future.

FIGURE 2 - LOCATION OF THE PROJECT SITE



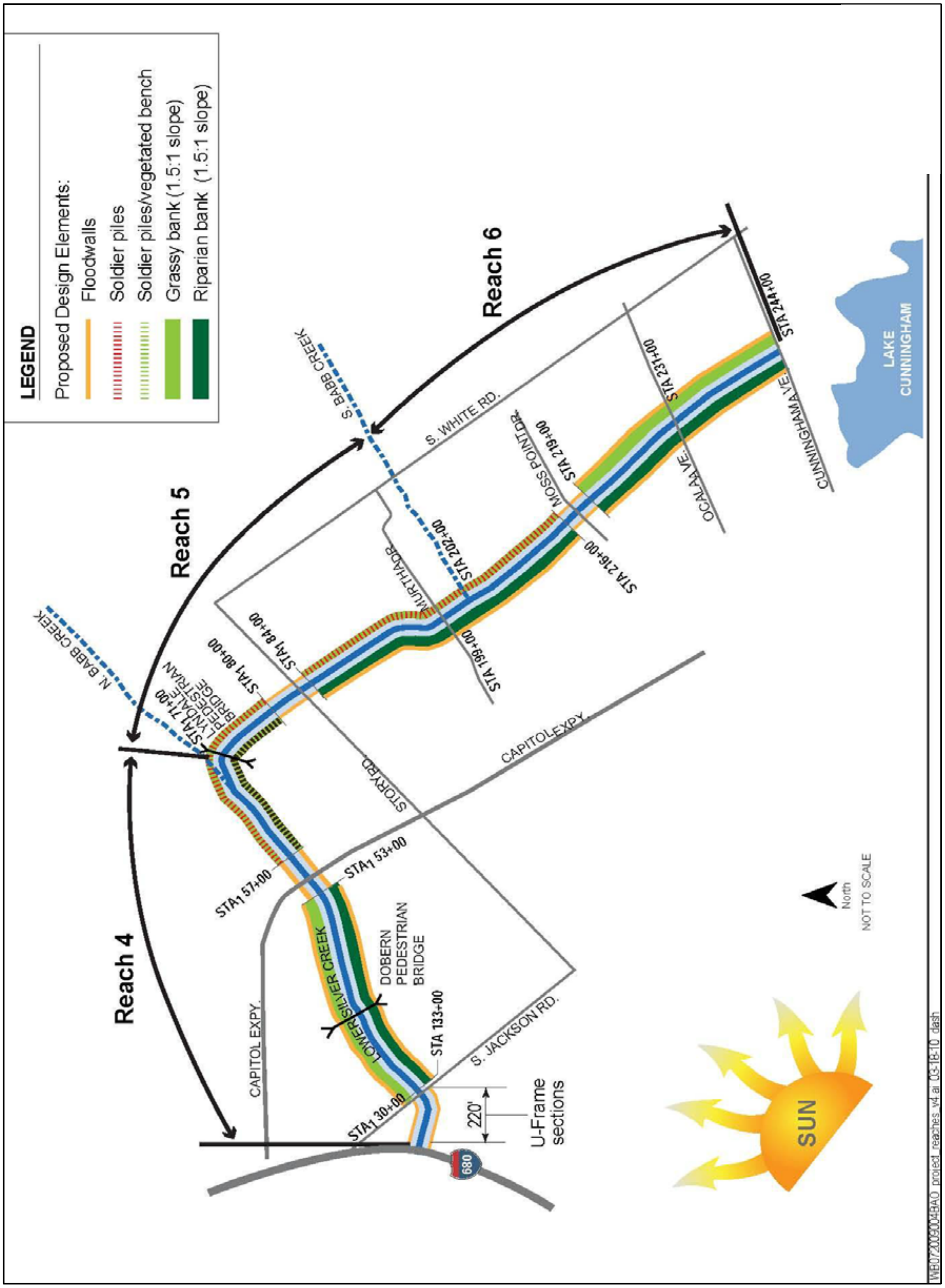
SOURCE: CH2MHill, 2010.

FIGURE 3 – AERIAL SITE MAP



SOURCE: CH2MHill, 2010.

FIGURE 4 – LIMITS OF PROJECT ELEMENTS



SOURCE: CH2MHill, 2010.

Impact Analysis

Activities and Potential Impacts

Construction

The District, working in collaboration with the NRCS and an interagency design team, developed plans for a "greener," fish-friendly project for Reaches 1 through 6 with a multistage channel that includes:

- an earthen channel bottom that allows for a meandering base-flow channel;
- riparian vegetation on banks;
- wetland areas; and
- an expanded floodplain, wherever feasible, given limited right-of-way availability.

The basic design concept dedicates one side of the channel to flood conveyance capacity so that the other side of the channel can be dedicated to riparian plantings and habitat.

In Reaches 4 through 6, where right-of-way availability is reduced and average velocities are higher, the 1998 design proposed the use of vegetated concrete block walls to protect the banks from erosive forces. With the opportunity to revisit the project design in 2009, the District looked at further improving the habitat value in Reaches 4, 5 and 6 from the 1998 design by increasing the area of vegetated riparian bank as well as by adding earthen slopes. It is also anticipated that the proposed, modified design would result in lower construction and maintenance costs. Table 1 provides a comparison of the 1998 design update and the 2010 proposed design by sub-reach.

TABLE 1
Qualitative Comparison of 1998 Plan Update and 2010 Proposed Design Improvements

Reach	Original Design: 1998 Plan Update	Proposed Design: 2010 Project
4a	Hybrid Vegetated Concrete Block Wall w/topsoil over rip-rap at invert.	U-Frame Concrete Channel w/ low flow channel/sediment collection area.
4b	Hybrid Vegetated Concrete Block Wall w/topsoil over rip-rap at invert, bioengineered rip-rap bank toe protection, and 5-foot riparian bench on one bank, native shrub plantings on top of bank inside the floodwalls.	Earthen Channel with 1.5:1 grassy earthen slopes, bioengineered rip-rap bank toe protection, riparian habitat on south bank including a 5-foot riparian bench, and an 8-foot set-back for an optional path (to be constructed by others) on the north side.
4c	Hybrid Vegetated Concrete Block Wall w/topsoil over rip-rap at invert, bioengineered rip-rap bank toe protection, and 5-foot riparian bench on one bank, native shrub plantings on top of bank inside the floodwalls.	Soldier Pile Wall Channel w/ earthen bottom, 5-foot riparian bench on south bank, and bioengineered rip-rap bank toe protection.
5a	Hybrid Vegetated Concrete Block Wall w/topsoil over rip-rap at invert, bioengineered rip-rap bank toe	Soldier Pile Wall Channel w/ earthen bottom, 5-foot riparian bench on south bank, and bioengineered rip-rap bank

TABLE 1
Qualitative Comparison of 1998 Plan Update and 2010 Proposed Design Improvements

Reach	Original Design: 1998 Plan Update	Proposed Design: 2010 Project
	protection, and 5-foot riparian bench on one bank, native tree and shrub plantings on top of bank inside the floodwall.	toe protection.
5b	Hybrid Vegetated Concrete Block Wall w/topsoil over rip-rap at invert, bioengineered rip-rap bank toe protection, and 5-foot riparian bench on one bank, native trees and shrub plantings on top of bank inside the floodwall.	Soldier Pile Wall Channel w/ earthen bottom, 5-foot riparian bench on south-west bank, and bioengineered rip-rap bank toe protection.
5c	Hybrid Vegetated Concrete Block Wall w/topsoil over rip-rap at invert, bioengineered rip-rap bank toe protection, and 5-foot riparian bench on one bank, native trees and shrub plantings on top of bank inside the floodwall.	Combined Earthen/Soldier Pile Wall Channel w/ earthen bottom, bioengineered rip-rap bank toe protection, and riparian habitat on south-west bank including a 5-foot riparian bench.
6a	Hybrid Vegetated Concrete Block Wall w/topsoil over rip-rap at invert, bioengineered rip-rap bank toe protection, and 5-foot riparian bench on one bank, native trees and shrub plantings on top of bank inside the floodwall.	Combined Earthen/Soldier Pile Wall Channel w/ earthen bottom, bioengineered rip-rap bank toe protection, and riparian habitat on south-west bank including a 5-foot (minimum) riparian bench.
6b	Hybrid Vegetated Concrete Block Wall w/topsoil over rip-rap at invert, bioengineered rip-rap bank toe protection, and 2:1 earthen slope with riparian habitat on west bank inside floodwall.	Earthen Channel with grassy earthen slopes, bioengineered rip-rap bank toe protection, and riparian habitat on south-west bank including a 5-foot riparian bench.

Reaches 4, 5 and 6 extends approximately 2.2 miles (11,700 feet). The flood protection improvements would include:

- excavation of soil;
- construction of soldier pile walls with concrete facing;
- construction of floodwalls, placement of rock slope protection, installation of riparian plantings;
- replacement of box culverts at South Jackson Avenue;

- installation of an additional culvert barrel at both Story Road and Capitol Expressway, as well as the reconstruction of transitions at all the bridge crossings;
- replacement of the Lyndale Pedestrian Bridge; and
- raising the existing Dobern pedestrian bridge.

A plan view of the work proposed for Reaches 4, 5 and 6 is provided in Figure 1. The four typical cross-sections that would be constructed are described in Figures 2 through 5.

The 2010 Proposed Project Improvements will include an estimate 200,000 cubic yards of excavation for Reaches 4, 5, and 6. This excavation volume is less than that estimated for the Original Design Plans for the same reaches, which was 250,000 cubic yards.

The project design also includes the relocation of utilities that would be crossing and/or are adjacent to the creek, including two 34-inch and one 20-inch gas transmission lines owned by Pacific Gas & Electric Company (PG&E). The transmission lines are located adjacent to the Dobern Pedestrian Bridge and would be modified and protected for the proposed, larger channel cross-section.

TABLE 2
Reach by Reach Description of Proposed Project Improvements

Reach	Stationing	Approx. Length (LF)	Proposed Cross-Section Type and Transitions
4a	127+90 – 130+00	210	Concrete U-frame with 2-foot deep low flow channel/sediment collection area.
Transition	130+40 – 133+00	260	Bank transition at Jackson Rd with earthen channel bottom for ~ 150 LF, 90 LF concrete box culvert (with ~20 LF apron).
4b	133+00 – 154+00	2,100	Earthen channel with 1.5:1 grass-covered slope on both sides with riparian vegetation on south bank including a 5-foot vegetated bench. Top of bank future recreational trail opportunity. Relocation of gas utility pipeline at Dobern Bridge location. Rip-rap protection at gas utility pipe crossing ~ 60 LF, relocation might require the pipes to be concrete encased. Raising of the existing Dobern Pedestrian Bridge by approx. 2.5 feet.
Transition	154+00 - 157+00	300	200 LF concrete box culvert at Capitol Expy (with ~100 LF apron).
4c/5a/5b	157+00 – 180+00	2,300	Soldier pile walls on both banks with a vegetated bench on south bank (with

TABLE 2
Reach by Reach Description of Proposed Project Improvements

Reach	Stationing	Approx. Length (LF)	Proposed Cross-Section Type and Transitions
			~70 LF of grouted rock lining at North Babb). Replacement of Lyndale Pedestrian Bridge.
Transition	180+00 – 184+00	400	Bank transition with concrete box culvert at Story Rd (with apron ~190 LF).
5c	184+00 – 197+00	1,300	Soldier pile on north-east bank and riparian vegetated slope on south-west bank including a 5-foot vegetated bench.
Transition	197+00 – 201+00	400	Bank transition at Murtha Dr. Bridge.
6a	201+00 – 216+00	1,500	Soldier pile on north-east bank and riparian vegetated slope on south-west bank including a 5-foot vegetated bench (with ~ 100 LF of grouted rock lining at South Babb.
Transition	216+00 – 219+00	300	Bank transition at Moss Point Dr. and existing concrete box culvert.
6b	219+00 – 229+00	1,000	Earthen channel1.5:1 slopes on both banks; riparian vegetated slope on south-west bank including a 5-foot vegetated bench.
Transition	229+00 – 233+00	400	Bank transition at Ocala Ave. Bridge.
6b	233+00 – 245+00	1,200	Earthen channel1.5:1 slopes on both banks; riparian vegetated slope on south-west bank including a 5-foot vegetated bench.
Total (LF)		11,670	

The creek construction activities would include clearing and grubbing; construction of access ramps at each road crossing; application of bioengineered rock slope protection along the toe of both slopes, a maintenance road on the north/ north-east side of the channel; hydroseeding; use of other appropriate District erosion-control Best Management Practices for channel banks; planting of native riparian species on vegetated benches and 1.5:1 banks; and, modification of existing stormdrain outfall structures.

By replacing all block walls with soldier pile walls and vegetated banks, the proposed design would result in:

- a net decrease of 10,000 linear feet of hardscape (concrete block walls or gabions);
- the addition of 4,900 linear feet of riparian vegetated slopes;
- the addition of 4,300 linear feet of grassy slopes; and,
- the addition of 2,300 linear feet of riparian vegetated flat bench.

The Initial Study/Negative Declaration prepared for the 1998 Plan Update stated that bridges (i.e. box culverts) throughout the project's construction limits may be enlarged to accommodate flows. Table 3 provides additional details on the modifications to be conducted at such box culverts. The new culvert described in Table 3 would be designed to fit the modified creek cross-sections. This new fill would not affect the current federal and state jurisdictional waters, as box culverts would be added in areas that are currently outside of jurisdictional waters. The net culvert footprint added would equal 1,600 feet. Modifications to the Story Road culvert would result in the conversion of 5,100 square feet of hardscape area to an earthen bottom channel area. Utilities would also need to be relocated to allow for the installation of the new box culverts.

TABLE 3
Proposed Culvert Modifications in Reaches 4, 5, and 6

Box Culvert Location	Existing Culvert Dimensions	Proposed Modification	Net Culvert Area Added
Jackson Avenue	Two (2) 9-feet high by 16-feet wide by 90-feet long box culverts Area = 2,800 SF	Remove and replace existing box culverts with five (5) box culverts with the same length as the existing culverts incl.: four (4) 13-feet wide by 9.5 feet high box culverts to match the invert elevation of the existing culverts and one (1) 13 feet wide by 11.5 feet high box culvert in the center with the invert two (2) feet deeper than existing to accommodate sediment and fish passage. Area added = 5,900 SF.	3,100 SF
Capitol Expressway	Two (2) 12 feet high by 12 feet wide by 200 feet long box culverts Area = 4,800 SF	Add one (1) 14 feet high by 12feet wide box culvert with invert two (2) feet deeper than existing to accommodate sediment and fish passage. Area added = 2,400 SF.	2,400 SF
Story Road	Three (3) 10 feet high by 12 feet wide by 250 feet long box culverts	Remove an excess of 140 feet of length from the existing box culverts so that they would match the width of Story Road (105 feet)	-3,800 SF

TABLE 3

Proposed Culvert Modifications in Reaches 4, 5, and 6

Box Culvert Location	Existing Culvert Dimensions	Proposed Modification	Net Culvert Area Added
	Area = 8,900 SF	Area removed 5,100 SF	
		Add one (1) 12 feet high by 12 feet wide box culvert with invert two (2) feet deeper than existing to accommodate sediment and fish passage	
		Area added= 1,300 SF	

SF = square feet

The 2010 Proposed Design Improvements would alter the wetland or Federal and state jurisdictional area impacts identified for the Original Design. The Original Design included an estimate 18,000 cubic yards of fill placed below the ordinary high water mark for Reaches 4, 5, and 6. This fill volume will be reduced to an estimate 12,000 cubic yards for the Proposed Project Improvements, for an overall reduction of 6,000 cubic yards.

Based on the typical cross-sections, the 2010 Proposed Project Improvements would have the potential to provide approximately 1.7 acres of additional native stream side riparian compared to the 1998 Plan Update. In addition, 1.5 acres of grass-covered slopes would be created on the “maintained” flood conveyance side of the channel, contributing positively to creek water quality. Table 4 provides a comparison of potential habitat area created under the 1998 Plan Update and the 2010 Project Improvements.

TABLE 4

Summary of Potential Habitat Created in Reaches 4, 5, and 6 under the 1998 Plan Update and Under the 2010 Proposed Project Improvements

Created Habitat	1998 Plan Update	2010 Proposed Project Improvements
Riparian (ac)	2.6	4.3
Potential SRA (LF)	7,200	9,400
Grassy Slopes (ac)	0.00	1.5
Wetland and Open Water Habitat (ac)	6.5	7.3
Top of Bank Plantings (ac)	2.2	0.7

Operation

This project would be operated as a flood protection facility by the District's Coyote Uvas-Llagas Watershed Operations Division, with an expected useful life of 25 years. Maintenance activities would include bank repair, sediment removal, and vegetation management, all of which have been described in the Stream Maintenance Program EIR, and are covered by long-term permits with specific District BMPs and reporting requirements.

Changed Conditions and Attending Severity of Impacts

An analysis of project-related activities indicated that impacts would be less than with earlier LSC project designs. For example:

- in-channel work would be greatly reduced, as a result of a change in design from the use of "hybrid vegetated concrete block wall with earth," to an earthen channel and side slopes, without concrete blocks (i.e., less hardscape);
- air quality (dust, exhaust emissions, etc), and traffic impacts would be reduced due to fewer anticipated truck trips and shorter construction duration, as a result of the reduction of hardscape from the design; and,
- the restriction of the project to existing District right-of-way (i.e., no new real estate acquisitions.

Additionally, District-standard (Best Management Practices (BMPs), see attached, would be included in the final plans and specifications; and, no new mitigation measures would be necessary.

Protected Species and Permits

A District-sponsored biological assessment for California red-legged frog (CRLF) and California Tiger Salamander (CTS), which included Lower Silver Creek to the confluence with Thompson Creek, was conducted as part of the county-wide Stream Maintenance Program permit application. The objective of the biological assessment was to determine if impacts to sensitive species would occur in drainages in which the District conducts routine maintenance work (i.e. sediment removal, bank protection, vegetation management) to preserve channel capacities in Santa Clara County.

The results of that biological assessment, which was based on analysis of known locality records for CRLF/CTS and habitat suitability, determined that these species have essentially disappeared from the urbanized lowland areas of the county. Lower Silver Creek is bordered by dense urbanization with no connectivity to adjacent or upland habitats. Degraded water quality, introduced aquatic predators, no in-stream cover or other habitat complexity (i.e. deep pools, large woody debris jams) are available to support the complex life history of these sensitive species. With the lack of appropriate habitat and no historic records for CTS and CRLF within, or adjacent to, Lower Silver Creek, the District concluded that there was no impact to either species from work in this creek.

Since the advent of the Stream Maintenance Program[11], District biological staff has conducted numerous pre-construction surveys and fish relocations to support permit requirements for routine maintenance activities in Lower Silver Creek. The objective of pre-construction surveys is to determine if nesting birds/sensitive species or native amphibians and fish will be impacted by in-stream activities. To the date of this Addendum, no CRLF or CTS has been observed in or adjacent to Lower Silver Creek. A summary of all surveys (i.e. time, date, location, results) can be provided upon request.

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[11] Santa Clara Valley Water District (SCVWD). 2001. Final Environmental Impact Report for the Multi-Year Stream Maintenance Program. Prepared by staff of the Santa Clara Valley Water District. August 2001.

Additionally, National Marine Fisheries Service (NOAA Fisheries) has concurred with the determination of the lead federal agency, Natural Resources Conservation Service, that Lower Silver Creek has no steelhead trout (*Oncorhynchus mykiss*) habitat, and that there would be no effects on steelhead as a result of construction in Reach 6B.

Air Quality

The following is an excerpt from the technical report[12] prepared for the proposed project: *The total emissions for both on-road and off-road vehicles/equipment are presented in Table [5]. Based on direction provided in the Guidelines Page B-13, "The average daily emissions of each pollutant that would occur throughout the entire construction period should be identified and compared with the District's threshold of significance", the thresholds apply to daily emissions averaged over the entire construction period. The pollutant NOx appears to be the driver using the methodology described above. The project's construction period would need to be greater than 456 days in duration in order for the average daily NOx emissions to be below the Guidelines' proposed 54 lb/day threshold of significance.*

TABLE 5

Comparison of the Project Construction Emissions and Proposed CEQA Significance Thresholds Santa Clara Valley Water District – Lower Silver Creek Flood Control Project – Construction Emissions Calculations

Metric	ROG	NOx	PM10	PM2.5
On-road Exhaust Emissions (lbs)	1,476	15,928	780	674
Off-road Exhaust Emissions (lbs)	1,115	8,701	498	498
Total Emissions (lbs)	2,592	24,629	1,279	1,173
BAAQMD Threshold (lb/day, average daily)	54	54	84	54
Required Construction Days to be Below the Thresholds	46	456	15	22

Note: This approach assumes that BAAQMD's thresholds apply to average daily emissions over the entire construction period (From the Guidelines Page B-13, "The average daily emissions of each pollutant that would occur throughout the entire construction period should be identified and compared with the District's threshold of significance.").

Greenhouse Gases

The following is an excerpt from the technical report[13] prepared for the proposed project: *Currently,* the [Bay Area Air Quality Management District] (*BAAQMD*) *does not*

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[12] Santa Clara Valley Water District – Lower Silver Creek Flood Control Project – Construction Emissions Calculations. April 26, 2010.

[13] Ibid.

have a threshold of significance for construction-related GHG emission[s] in its proposed BAAQMD CEQA Air Quality Guidelines. However, the proposed Guidelines indicate that [the] lead agency should quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these construction generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals. The Guideline encourages projects to incorporate best management practices to reduce GHG emissions during construction, as applicable.

Greenhouse emissions associated with the project construction activities will be from the fuel combustion exhaust due to the use of construction equipment, delivery trucks, service trucks, and workers' commute. CO_2 *emissions were calculated to represent the GHG emissions from project construction, since other GHG compounds, such as* CH_4*, are negligible compared to* CO_2 *emissions from construction equipments and vehicles.* CO_2 *emissions from the equipment and vehicles were estimated using the same methodology as for the criteria pollutants.*

A summary of the GHG emissions from project construction, and a comparison to the state GHG inventory of 2006, are presented in Table [6]:

TABLE [6]

Comparison of the Project Construction Emissions of GHG and State Inventory Santa Clara Valley Water District – Lower Silver Creek Flood Control Project – Construction Emissions Calculations

Metric	CO2 Equivalent
On-road Exhaust Emissions (metric tons)	1,067
Off-road Exhaust Emissions (metric tons)	406
Total Emissions (metric tons)	1,473
BAAQMD Threshold	NA
State Inventory (2006) (metric ton/year)	479.8×10^6
Percent of State Inventory	0.0003%

Data source of state inventory: California's Greenhouse Gas Emissions Inventory - Current Data, accessed April 2010.

As shown in the table, GHG emissions associated with project construction are minimal compared to the emission inventory of the state. In addition, the GHG emissions [would] be temporary and only last for a few years. Therefore, the GHG emissions during project construction are not expected to affect the implementation of the state's GHG emission reduction target. In addition, the project is expected to reduce GHG over the long term with reduce[d] instances of flood damage and more vegetation.

Conclusion Regarding Appropriate Level of Review

The Reach 6B project will fall completely within the footprint of the project as described in the IS/ND; in fact, it will require no new ROW, and will amend the former design in the following ways:

- The extent and characteristics of channel modification (i.e., modification will be restricted to the banks, above the normal line of ordinary high water; there will be no permanent changes made in the channel bottom); and

- Reduced hardscaping (e.g., armoring) of the channel and banks (i.e., elimination of concrete blocks).

Analysis indicates that none of the conditions specified in CEQA Guidelines §15162(a),[14] will occur with implementation of the Reach 6B project; associated activities will not create new, significant environmental impacts, nor increase the severity of impacts beyond the level of significance identified in the Board-approved IS/ND; and, no new mitigation measures are proposed. Additionally, consistent with CEQA Guidelines §15162(b)[4], the SCVWD determined the need to prepare this Addendum.

In conclusion, based on the evidence in the whole record, including the IS/ND and technical information supporting the information presented herein, this Addendum has been prepared in fulfillment of the requirements of §15164(a).

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[14] California Code of Regulations Title 14, Natural Resources, Division 6, Resources Agency, Chapter 3. Guidelines for Implementation of the California Environmental Quality Act, Article 11, Types of EIRs.

ATTACHMENT A

Best Management Practices Incorporated into Reach 6B of the Lower Silver Creek Watershed Project

AIR QUALITY

AQ-1 ***BAY AREA AIR QUALITY MANAGEMENT DISTRICT OPTIONAL DUST CONTROL MEASURES*** **(Individual Optional control measures may be incorporated, as appropriate)**	Implement appropriate Bay Area Air Quality Management District (BAAQMD) Optional Control Measures for construction emissions of PM_{10} at all construction sites. BAAQMD Optional Control Measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors, or which for any other reason may warrant additional emissions reductions. Current measures stipulated by the BAAQMD CEQA Guidelines include the following (BAAQMD 1999): 1. Active areas shall be watered at least twice per day unless soils are already sufficiently moist to avoid dust. The amount of water must be controlled so that runoff from the site does not occur, yet dust control is achieved. 2. Trucks hauling soil, sand, and other loose materials shall be covered or shall maintain at least two feet of freeboard. 3. Unpaved access roads, parking areas and staging areas at construction sites shall be paved, watered three times daily, or non-toxic soil stabilizers shall be applied to control dust generation. 4. Paved site access roads, parking areas, and staging areas shall be swept daily (with vacuum-powered street sweepers). 5. Paved public streets shall be swept (with vacuum-powered street sweepers) if visible soil material is carried onto adjacent paved surfaces.
AQ-2 ***BAY AREA AIR QUALITY MANAGEMENT DISTRICT ENHANCED DUST CONTROL MEASURES*** ***(SITES GREATER THAN 4 ACRES IN SIZE)***	For sites greater than four acres in size, implement Bay Area Air Quality Management District Enhanced Dust Control Measures. Current measures stipulated by the BAAQMD CEQA Guidelines include the following (BAAQMD 1999): 1. All BAAQMD “Basic” control measures. 2. Inactive areas (previously graded areas inactive for ten days or more) shall be sprayed with soil stabilizer or seeded. 3. Exposed stockpiles (dirt, sand, etc.) shall be watered twice daily, enclosed, covered, or sprayed with soil stabilizers. 4. Traffic speeds on unpaved roads shall be limited to 15 mph. 5. Sandbags or other bank protections shall be installed to prevent silt runoff to roadways. 6. Vegetation in disturbed areas shall be replanted as soon as horticulturally appropriate. For example, plant material may not be ready as soon as the job is done (e.g. willow cuttings have to be collected during winter dormancy).

AQ-3 ***BAY AREA AIR QUALITY MANAGEMENT DISTRICT OPTIONAL DUST CONTROL MEASURES*** **(Individual optional control measures may be incorporated, as appropriate)**	Implement appropriate Bay Area Air Quality Management District (BAAQMD) Optional Control Measures for construction emissions of PM_{10} at all construction sites. BAAQMD Optional Control Measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors, or which for any other reason may warrant additional emissions reductions. Current measures stipulated by the BAAQMD CEQA Guidelines include the following (BAAQMD 1999): 1. Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site. 2. Install wind breaks or plant trees/vegetation wind breaks at windward side(s) of construction areas. 3. Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph. 4. Limit the area subject to excavation, grading, and other construction activity at any one time. Additional District control measures that may be used if applicable include: 5. Tailgates of trucks shall be sealed; and 6. Trucks shall be brushed down before leaving the site.
AQ-4 ***AVOID STOCKPILING POTENTIALLY ODOROUS MATERIALS***	Some sites will have materials that are rich in organic matter decaying in an anaerobic condition, which generates assorted malodorous gases, such as reduced sulfur compounds. These materials will be handled in a manner that avoids impacting sensitive receptors. 1. Avoid stockpiling potentially odorous materials within 1,000 feet of residential areas or other odor sensitive land uses. 2. Where appropriate, odorous stockpiles will be disposed of at an appropriate landfill.

BIOLOGICAL RESOURCES

BI-1 ***MITTEN CRAB CONTROL MEASURES***	Sediment from the San Francisco Bay watershed, including that for reuse will not be removed to areas any farther south than Coyote Valley or outside of the San Francisco Bay watershed unless previously authorized by California Department of Fish and Game. This measure is to avoid transporting mitten crabs, a highly invasive, exotic species, to areas where they are not currently found.
BI-4 ***MINIMIZE WATERWAY ACCESS IMPACTS***	Existing access ramps and roads to waterways will be used where possible. If temporary access points are necessary, they will be constructed in a manner that minimizes impacts to waterways: 1. Temporary project access points will be created as close to the work area as possible to minimize running equipment in waterways and will be constructed so as to minimize adverse impacts. 2. Any temporary fill used for access will be removed upon completion of the project. Site topography and geometry will be restored to pre-project conditions to the extent possible.
BI-8 ***MIGRATORY BIRD SURVEYS***	Migratory bird surveys will be performed prior to any project-related activity that could pose the potential to affect migratory birds. Inactive bird nests may be removed, with the exception of raptor nests. No birds, nests with eggs, or nests with hatchlings will be disturbed. See Special Provision 17.17.

BI-9 ***MIGRATORY BIRD NESTING PREVENTION - VEGETATION CLEARING***	Vegetation can be cleared and maintained to prevent migratory bird nesting. All necessary vegetation clearing will be performed prior to the nesting season, if at all possible. No vegetation will be trimmed back unnecessarily, including trees and/or shrubs growing near the right of way, which overhang onto the work site. See Special Provision 17.17.
BI-11 ***CROSS SECTION SURVEYS***	Survey cross-sections will be moved, within acceptable tolerances, to avoid cutting dense riparian vegetation and minimize cutting of woody vegetation, taking advantage of natural breaks in foliage. If the cross-section cannot be moved within the established acceptable tolerances to avoid impacts to dense riparian or woody vegetation, the cross-section will be abandoned. Cutting vegetation will be limited to the minimum length, width, and height necessary for safely accessing survey locations, and completing the cross-section surveys. Tree pruning will conform to International Society of Arboriculture (ISA) pruning standards. No trees with a 6-inch or greater diameter at breast height will be removed.

CULTURAL RESOURCES

CU-2 ***ARCHAEOLOGICAL FINDS***	Work in areas where archaeological artifacts are found will be restricted or stopped until proper protocols are met. Work at the location of the find will halt immediately within 30 feet of the find. A Consulting Archaeologist will visit the discovery site as soon as practicable for identification and evaluation pursuant to §21083.2 of the Public Resources Code and §15126.4 of the California Code of Regulations. If the archaeologist determines that the artifact is not significant, construction may resume. If the archaeologist determines that the artifact is significant, the archaeologist will determine if the artifact can be avoided and, if so, will detail avoidance procedures. If the artifact cannot be avoided, the archaeologist will develop within 48 hours an Action Plan which will include provisions to minimize impacts and, if required, a Data Recovery Plan for recovery of artifacts in accordance with Public Resources Code §21083.2 and §15126.4 of the CEQA Guidelines.
CU-3 ***BURIAL FINDS***	Work in areas where any burial site is found will be restricted or stopped until proper protocols are met. Upon discovering any burial site as evidenced by human skeletal remains, the County Coroner will be immediately notified. No further excavation or disturbance within 30 feet of the site or any nearby area reasonably suspected to overlie adjacent remains may be made except as authorized by the County Coroner, California Native American Heritage Commission, and/or the County Coordinator of Indian Affairs.

HAZARDOUS MATERIALS

HM-9 ***Vehicle and Equipment Cleaning***	Vehicles will be washed only at the approved area in the corporation yard. No washing of vehicles will occur at job sites.
HM-12 ***HAZARDOUS MATERIALS MANAGEMENT***	Measures shall be implemented to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means: 1. Prior to entering the work site, all field personnel shall know how to respond when toxic materials are discovered. 2. The discharge of any hazardous or non-hazardous waste as defined in Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations shall be conducted in accordance with applicable State and federal regulations.
HM-13 ***SPILL PREVENTION***	Prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water: 1. Field personnel shall be appropriately trained in spill prevention, hazardous material control, and clean-up of accidental spills. 2. No fueling, repair, cleaning, maintenance, or vehicle washing shall be performed in a creek channel or in areas at the top of a channel bank that may flow into a creek channel.
HM-14 ***SPILL KIT LOCATION***	Spill prevention kits shall always be in close proximity when using hazardous materials (e.g., crew trucks and other logical locations): 1. Prior to entering the work site, all field personnel shall know the location of spill kits on crew trucks and at other locations within District facilities. 2. All field personnel shall be advised of these locations and trained in their appropriate use.
HM-15 ***AVOID EXPOSING SOILS WITH HIGH MERCURY LEVELS***	To ensure worker safety is protected in areas with elevated mercury concentrations in exposed surfaces, personal protective equipment will be required during project construction to maintain exposure below levels established by the California Division of Occupational Safety and Health (Cal/OSHA).

HYDROLOGY / WATER QUALITY

WQ-3 ***PUMP/GENERATOR SET OPERATIONS AND MAINTENANCE***	Pumps and generators will be maintained and operated in a manner that minimizes impacts to water quality and aquatic species. 1. Pumps and generators will be maintained according to manufacturers' specifications to regulate flows to prevent dry-back or washout conditions. 2. Pumps will be operated and monitored to prevent low water conditions, which could pump muddy bottom water, or high water conditions, which creates ponding. 3. Pump intakes will be screened to prevent uptake of fish and other vertebrates. 4. Sufficient back-up pumps and generators will be onsite to replace defective or damaged pumps and generators.
WQ-5 ***SOIL STOCKPILES***	If soil is to be stockpiled, no run-off shall be allowed to flow to a creek.
WQ-6 ***STABILIZED CONSTRUCTION ENTRANCE***	Measures will be implemented to minimize soil from being tracked onto streets near work sites: 1. Methods used to prevent mud from being tracked out of work sites onto roadways include installing a layer of geotextile mat, followed by a 4-inch thick layer of 1 to 3-inch diameter gravel on unsurfaced access roads. 2. Access will be provided as close to the work area as possible, using existing ramps where available and planning work site access so as to minimize disturbance to the water body bed and banks, and the surrounding land uses.
WQ-12 ***DIVERSION/ BYPASS WATER AT NON-TIDAL SITES***	When work in a flowing stream is unavoidable, the entire streamflow will be diverted around the work area by a barrier. Construction of the barrier will normally begin in the upstream area and continue in a downstream direction, and the flow will be diverted only when construction of the diversion is completed. The water diversion plan will allow stream flows to gravity flow around or through the work site using temporary culverts or stream flow is pumped around the work site using pumps and screened intake hoses. Coffer dam construction will be adequate to prevent seepage into or from the work area. Coffer dams will be constructed of river run gravel with a fines content that is less than 15%. Fines are defined as material that is able to pass through a #20 sieve. Coffer dams may also be constructed of sheet piles, inflatable dams, or sand bags. Coffer dams will be installed both upstream and downstream not more than 100 feet from the extent of the work areas. In-channel berms that only deflect water to one side of the channel during sediment removal may be constructed of channel material. The enclosure and the supportive material will be removed when the work is completed and the removal will normally proceed from downstream in an upstream direction. Normal flows will be restored to the affected stream immediately upon completion of work at that location: 1. All water will be discharged in a non-erosive manner (e.g., gravel or vegetated bars, on hay bales, on plastic, on concrete, or in storm drains

	when equipped with filtering devices, etc.). 2. Sumps or basins may also be used to collect water, where appropriate (e.g., in channels with low flows). 3. Where feasible and appropriate, diversion structures will be installed on concrete sections of the channels or constructed of materials specified above. Earth fill will not be used for cofferdams in non-tidal areas. 4. In conjunction with diversion structures, pumps or gravity-fed pipe systems will be used to dewater sites. 5. Depending on the channel configurations, sediment removal may occur where the flows are not bypassed around the work site; as long as during excavation activities, a berm of sediment is left between the work area and stream flows to minimize water quality impacts. 6. Diversions will maintain ambient stream flows below the diversion, and waters discharged below the project site will not be diminished or degraded by the diversion.
WQ-14 ***SEEDING***	For banks that are scraped, an erosion control seed mix will be used. Temporary earthen access roads will be seeded when site and horticultural conditions are suitable.
WQ-16 ***AVOID EROSION WHEN RESTORING FLOWS***	All temporary diversion structures and the supportive material will be removed no longer than 48 hours after work is completed. The removal will normally proceed from downstream in an upstream direction. Normal flows will be restored to the affected stream immediately upon completion of work at that location. Flows will be restored in a manner that minimizes erosion. 1. When diversion structures are removed, to the extent practicable, the ponded flows will be directed into the low-flow channel within the work site to minimize downstream water quality impacts. 2. Flows will gradually be restored to the channel to avoid a surge of water that would cause erosion or scouring. 3. Bypassed flows may be slowly reintroduced into the dewatered area by leaving a silt barrier in place to allow water to slow and drop sediment to the extent possible.
WQ-17 ***PREVENT SCOUR DOWNSTREAM OF SEDIMENT REMOVAL***	Sites in the transport zone on alluvial fans may cause increased scour downstream if they experience rapid sediment accumulation after sediment removal. Channel reaches up to 500 feet downstream from such sediment removal sites will be monitored to determine whether accelerated erosion is occurring. If downstream monitoring indicates that erosion is occurring, then remedial action such as rock vortex weirs or similar protection will be carried out.
WQ-18 ***SITE MAINTENANCE AND CLEANUP***	The work site, areas adjacent to the work site, and access roads will be maintained in an orderly condition, free and clear from debris and discarded materials. Personnel will not sweep, grade, or flush surplus materials, rubbish, debris, or dust into storm drains or waterways. Upon completion of work, all building materials, debris, unused materials, concrete forms, and other construction-related materials will be removed from the work site.

WQ-26 ***SILT FENCE CULVERT ENTRANCE PROTECTION***	To reduce flow velocity of runoff, allowing sediment to settle out before discharge enters a culvert and its drainage system: 1. Install silt fence culvert protection in appropriate locations: a. Where sheet and rill erosion would occur. b. Where protection of adjacent property or areas is needed. c. Where the maximum slope length behind the silt fence is 100 feet (30 meters) and the maximum slope gradient is 50% (2:1). d. Where the flow volume does not exceed 1 cfs. e. Where ponded water will not damage adjacent areas or structures, or create a traffic hazard or other nuisance. f. 2. Select the correct construction materials: a. Select a woven or non-woven filter fabric made of at least 85% by weight, ethylene, propylene, amide, ester, or vinylidene yarn. b. The Equivalent Opening size of the filter fabric (U.S. Standard Sieve) will be 70-100, and the tensile strength will be at least 120 lbs (54 kg) if a wire support fence is used and 200 lbs (90 kg) if a wire support fence is not used. c. Posts should be either 4-inch diameter wood or 1.33 pounds per linear foot steel. Posts should be at least 5 feet long. Steel posts should have projections for fastening wire. d. Wire fence reinforcement will be a minimum of 42 in (1.1 m) tall and a minimum width of 14-gauge. The maximum mesh spacing should be 6 in (15 cm). e. 3. Construct the silt fence properly: a. The height of the silt fence should be between 16 in (40 cm) and 36 in (90 cm). The most effective height range is 24 to 36 in (60 to 90 cm). Shorter fences may be breached during small discharges and require more maintenance. b. If possible, cut the filter fabric from a continuous roll to avoid the use of joints. If joints are necessary, splice the filter fabric only at a support post. Overlap the fabric pieces a minimum of 6 in (15 cm) and secure both ends to the post. c. If a wire mesh support fence is used, install posts at least 3 feet (1 meter) apart. Install posts closer together if a support fence is not used. Drive posts into the ground to a depth of at least 1 foot (30 cm). d. Excavate a 4-in (10 cm) deep trench that is at least 4 in (10 cm) wide upslope of the silt fence along the line of posts.
WQ-28 ***DISCHARGE SURFACE PROTECTION – FLOW DIVERSION***	To protect bare soil and vegetated surfaces from erosion by diverting, channeling, or temporarily piping flows over erodible areas to protected areas not subject to erosion: 1. When considering the use of flow diversion, take into account the following: a. There must be a storm drain or paved surface nearby to which the discharge can be diverted. b. The flow channel must be aligned to avoid disruption of traffic, or traffic control measures must be used. c. The flow channel must have sufficient slope to allow the discharge to flow to the storm drain or paved surface. d. The flow channel must be designed to handle the anticipated flow rate. e. Protective armor or temporary piping can be used for high velocity discharges or large flow volume discharges over bare soils or vegetated surfaces. The armor material selected must be able to withstand the

	flow velocity and movement of the discharge. 2. Divert flows correctly: a. Divert water to a channel using fixed or flexible piping, or another system to capture this flow (e.g. sand bags). b. If armor is used to create a flow channel over the erodible surface clear the area to be protected of rocks and debris which may puncture the armor. c. Anchor the armor using sandbags, gravel, or stakes along the perimeter. d. If there is to be a direct stream of high velocity flow, an energy dissipating device may be necessary to prevent failure of the armor. 3. Inspection and Maintenance: a. Inspect the area for flooding resulting from failure of the channel diversion structure or the flow rate exceeding the diversion channel capacity. b. Inspect the channel for erosion along the edges due to overtopping of the channel. c. Monitor the armor for failure (tearing) and erosion at the edges of the armor. d. If erosion does occur along the edges of the channel or armor, implement sediment/turbidity control measures. e. Remove armor when the discharge is complete. f. Sweep up any sediment deposited in the flow path and dispose of appropriately. g. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.
WQ-29 ***DISCHARGE STORM DRAIN CURB & DROP INLET PROTECTION***	To install temporary devices around drain inlets using gravel, wire mesh, and /or concrete blocks that may prevent sediment-laden runoff from entering the storm drain system or watercourses (These devices reduce the velocity of runoff, allowing sediments to settle. The gravel can also filter out coarse sediment from runoff.): 1. Use drain inlet protection in appropriate locations: a. Use in drainage areas less than one acre. b. Place anywhere sediment-laden runoff could discharge into a storm drain inlet. c. If the inlet protection device could pond water, install only where ponded water will not contact materials, flood structures, or cause a nuisance. d. Completely cover inlet where work activities could result in vegetation, raw materials or sediment being deposited into the inlet, or when a small spill occurs near the inlet. Cover inlets with rubber or polyurethane mats, or plastic sheeting anchored with gravel bags. 2. Install inlet protection properly: a. To prevent seepage of sediment-laden runoff into he drain inlet, install drain inlet protection so there are no gaps around the drain inlet. b. Do not place filter fabric over the inlet grate as it can become clogged with sediment and contribute to flooding. 3. Gravel and Wire Mesh Drop Inlet Protection: a. Place wire mesh over the inlet so the wire extends a minimum of

    12 inches beyond each side of the inlet structure. Use hardware cloth or comparable wire mesh with ½-inch openings. If more than one mesh strip is required, overlap the strips.

  b. Pile ¾ to 3-inch washed gravel on top of the mesh surrounding the inlet to a minimum depth of 12 inches. Extend the gravel at least 18 inches beyond the inlet on all sides.

4. Gravel and Wire Mesh Curb Inlet Protection:
   a. Place wire mesh over the inlet so the wire extends a minimum of 12 inches beyond each side of the inlet structure. Use hardware cloth or comparable wire mesh with ½-inch openings.
   b. Pile ¾ to 3-inch washed gravel against the mesh to anchor it against the gutter and inlet cover and to surround the inlet completely.
5. Block and Gravel Curb Inlet Protection:
   a. Place two concrete blocks on their sides abutting the curb at either side of the inlet opening. These are the space blocks.
   b. Place a 2-inch by 4-inch stud through the outer holes of each spacer block to align the front blocks.
   c. Place more concrete blocks on their sides across the front of the inlet and abutting the spacer blocks. Do not use mortar.
   d. Place wire mesh with ½-inch openings over the outside vertical face of the blocks to keep gravel out of the inlet.
   e. Place ¾ to 3-inch washed gravel against the wire mesh to the top of the blocks, on slopes of 2:1 or flatter.
6. Block and Gravel Drop Inlet Protection:
   a. Place wire mesh over the inlet so the wire extends a minimum of 12 inches beyond each side of the inlet structure. Use hardware cloth or comparable wire mesh with ½-inch openings. If more than one mesh strip is required, overlap the strips.
   b. Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, so the open end face outward not upward. Abut the ends of the adjacent blocks.
   c. Stack blocks to at least 12 inches but not more than 24 inches above the inlet, depending on design requirements.
   d. Place wire mesh with ½-inch openings over the outside vertical face of the blocks to keep gravel out of the inlet.
   e. Place ¾ to 3-inch washed gravel against the wire mesh to the top of the blocks, on slopes of 2:1 or flatter.
7. Gravel Bag Barriers:
   a. Use bags made of geotextile fabric, not burlap. Fill bags with washed ¾-inch rock or ¼-inch pea gravel.
   b. Place gravel bags around the perimeter of the drop inlet, packing bags together tightly. For a cub inlet, abut the curb at either side of the inlet opening.
   c. If additional flow retention is required, construct a barrier upgradient of the inlet by placing gravel bags perpendicular to the direction of flow.

	Overlap the bags and pack them tightly together. Construct each barrier using several layers of bags. Leave a one bag gap on the top row to act as a spillway to prevent flooding. If more than one barrier is used, place barriers at 20-foot intervals. 8. Wooden Weir (and Fabric) Curb Inlet Protection: a. Construct a wooden weir using 2-inch by 4-inch construction grade lumber, with a total length equal to the throat length plus 2 feet. b. Attach a continuous piece of wire mesh of at least 30 inches in width and a length equal to the inlet's throat length plus 4 feet. c. Place a piece of approved "extra strength" filter cloth, equal to the dimensions of the wire mesh, over the mesh and secure it to the weir. d. Nail the weir to the 9-inch long vertical spacers, which will be located between the weir and the inlet face at no more than 6-foot intervals. e. Place the assembly against the inlet throat and nail 2-inch by 4-inch boards, in minimum lengths of 2 feet, to the top of the weir at the spacers. Extend these anchors across the inlet tops and hold them in place by sandbags or alternate weight. f. Place the assembly such that the end spacers are at lest 1 foot beyond both ends of the throat opening. g. Form the mesh and cloth to the concrete gutter and against the face of the curb on both sides of the inlet. Place coarse aggregate over the mesh and cloth so that water is prevented from entering the inlet either under or around the filter fabric. 9. Inspection and Maintenance: a. Let ponded water evaporate provided it does not cause a nuisance. b. Inspect before anticipated storms and after storms for gaps, clogging of gravel, ruptured gravel bags, and sediment accumulated behind inlet protection. During extended rainfall events, inspect at least once every 24 hours. c. Carefully remove accumulated sediment when the depth reaches half the height of the inlet protection device. Dispose of sediment properly. d. Clean or replace gravel that is clogged with sediment. Do not clean gravel near the inlet.
WQ-37 ***Well or Exploratory Boring Materials Management***	All materials or waters generated during drilling, well or exploratory boring construction, well development, pump testing, or other activities associated with wells or exploratory borings, will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case will these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
WQ-38 ***Well Or Exploratory Boring Contaminant Protection***	Any substances or materials that may degrade groundwater quality will not be allowed to enter any well or boring. Lubricants used on drill bits, drill pipe, or tremie pipe will not be comprised of oily or greasy substances or other materials that may degrade groundwater quality. Well openings or entrances will be sealed or secured in such a way as to prevent the introduction of contaminants.

WQ-40 ***WATER POLLUTION CONTROL***	Oily, greasy, or sediment laden substances or other material that originate from the project operations and may degrade the quality of surface water or adversely affect aquatic life, fish, or wildlife will not be allowed to enter, or be placed where they may later enter, any waterway. The project will not increase the turbidity of any watercourse flowing past the construction site by taking all necessary precautions to limit the increase in turbidity as follows: 1. where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases will not exceed 5 percent; 2. where natural turbidity is greater than 50 NTU, increases will not exceed 10 percent; 3. where the receiving water body is a dry creek bed or storm drain, waters in excess of 50 NTU will not be discharged from the project. Water turbidity changes will be monitored. The discharge water measurements will be made at the point where the discharge water exits the water control system for tidal sites and 100 feet downstream of the discharge point for non-tidal sites. Natural watercourse turbidity measurements will be made in the receiving water 100 feet upstream of the discharge site. Natural watercourse turbidity measurements will be made prior to initiation of project discharges, preferably at least 2 days prior to commencement of operations.
WQ-41 ***STORMWATER POLLUTION PREVENTION***	Suitable erosion control, sediment control, source control, treatment control, material management, and non-stormwater management BMPs will be implemented consistent with the latest edition of the California Stormwater Quality Association “Stormwater Best Management Practices Handbook,” which is available at www.cabmphandbooks.com.

NOISE

NO-1 ***NOISE POLLUTION***	Noise pollution due to construction activities will be kept as low as possible. In no case shall noise levels exceed the maximums of the local jurisdiction requirements.
NO-2 ***RESIDENTIAL NOISE MANAGEMENT***	The District will implement practices that minimize disturbances to residential neighborhoods surrounding work sites: 1. In general, work will be conducted during normal working hours. Extending weekday hours and working weekends may be necessary to complete some projects. 2. Internal combustion engines will be equipped with adequate mufflers. 3. Excessive idling of vehicles will be prohibited. 4. All construction equipment will be equipped with manufacture’s standard noise control devices. 5. The arrival and departure of trucks hauling material will be limited to the hours of construction. 6. The use of jake brakes is prohibited in residential areas.

TRANSPORTATION/TRAFFIC

TR-1 ***IMPLEMENT PUBLIC***	Public safety measures shall be implemented as follows: 1. Construction signs shall be posted at job sites warning the public of construction work and to exercise caution.

SAFETY MEASURES	2. When necessary, a trained flagger shall be provided for traffic control. 3. If needed, a lane shall be blocked off in accordance with applicable agency recommendations and approval to allow for trucks to pull into and out of the access points. 4. Where work is proposed adjacent to a recreational trail, warning signs shall be posted several feet beyond the limits of work. 5. Fencing, either the orange safety type or chain-link, shall be installed around project areas to keep the public out as necessary.

UTILITIES

UT-1 ***SANITARY/SEPTIC WASTE MANAGEMENT***	Temporary sanitary facilities shall be located on jobs that last multiple days. All temporary sanitary facilities shall be placed outside of the creek channel and flood plain and removed when no longer necessary.
UT-2 ***WORK SITE SOLID WASTE MANAGEMENT***	Field personnel shall clean the work site before leaving by removing all litter and construction related materials. Field personnel shall be responsible for all debris incurred as a result of construction and for cleaning up dumped material.